COMMUNITY RESILIENCE SALONS

In the summer of 2006, the National Oceanic and Atmospheric Administration's (NOAA) Coastal Services Center initiated a series of Community Resilience Salons. This effort is designed to facilitate thoughtful discussion among experts from the private sector, federal, state, and local agencies, academia, and non-governmental organizations on factors that contribute to community resilience. The American Meteorological Society and the Association of State Floodplain Managers are partnering with NOAA on this effort, co-hosting and helping to bring key participants to the table.

The series will include three salons by spring 2007, and results will contribute to efforts by NOAA and partners to develop a framework which helps coastal communities assess and improve their resilience to hazards. The salons are also intended to begin building a community of practice across the public, private, academic and non-profit sectors devoted to understanding and enhancing community resilience.

The Salon Series
NOAA and its partners are interested in developing a complete picture of resilience as seen by diverse sectors and across local, regional, and national levels. To that end, each of the salons targets specific participants:

- Boulder, July 2006: This first salon focused on hearing from researchers with expertise in identifying and measuring different aspects of resilience.

- Washington, DC, December 2006: Co-hosted by the American Meteorological Society and held at the U.S. Chamber of Commerce, this salon brought together representatives from the private sector, federal agencies and non-governmental organizations.

- New England, Spring 2007: The third and final salon will be co-hosted by the Association of State Floodplain Managers and will focus on local elected officials and on-the-ground resource managers, floodplain managers, emergency managers, and planners.

Initial Results
The two salons held to date have already generated a wealth of ideas about the factors that contribute to or impede resilience for communities, including variables that impact individuals, families and other social groups, businesses, governmental agencies, natural resources, and physical infrastructure. These salons have also provided insight into how resilience might be measured, and into motivations for communities, agencies, and businesses to enhance resilience. The following sections outline a few of the ideas discussed at the first two salons.

Boulder Salon

The majority of attendees came from the academic sector, but participants also included state and federal government, non-governmental organizations, and professional associations. The following themes were emphasized:

- Definitions are important: Developing or adopting definitions for "community" and "resilience" is a priority step in developing a conceptual framework.
- Indicators may make more sense than an index: Trying to create a single index of resilience to be applied at various scales and encompassing factors from a wide range of disciplines is probably unrealistic. It might be more appropriate and feasible to focus on indicators or multiple indices to be developed incrementally.
- Scale is a major issue: Indicators seen as meaningful at the local level may not be relevant across all communities, and likewise a national-level set of indicators may not seem relevant or useful at the local level.
- Incentives are needed: Indicators and indices are useful tools, but incentives will be required to encourage communities to measure and enhance resilience.
- Many interconnected factors impact resilience: Resilience is related to the natural environment, built environment, economics, political institutions and processes, social networks, and people's attitudes and beliefs. Individual factors are often related to a myriad of other variables; connections between diverse factors emphasize the challenge of understanding and improving resilience.

Washington DC Salon

This salon was attended by individuals involved in a wide range of industries, from transportation, oil and gas, tourism, and finance, to consulting, technology development, and insurance. National and local chambers of commerce, national non-profits, and federal agencies also participated. Several recommendations emerged:

- Increase and formalize coordination across sectors and levels: The current lack of formal relationships, communication, and cooperative planning across the many players involved in resiliency is a key constraint. State, local, and federal government, business, non-profits and foundations, and community and faith-based organizations all have a role to play.
- Plan early and often: With so many players involved, and so many connections across factors that contribute to resilience, proactive planning about what to do before, during, and after a disaster is essential.
- Urge both businesses and individuals to get involved: Businesses can take direct action to enhance resilience, as well as fostering action on the part of employees, suppliers, and customers. At the same time, individuals have a responsibility to understand their risk and prepare themselves.
- Recognize that government will continue to play a critical role: Governmental incentives, aid, and policies are needed to balance societal concerns and values. The public sector plays a key role in balancing equity and diversity concerns, as well as in addressing the special needs of socially vulnerable populations.
- Use indicators and case studies to drive change: Indicators, benchmarks, case studies, and best practices can be useful tools for promoting and tracking progress.
- Develop and spread key messages: There is a need to communicate that enhancing resilience is a way to protect and foster future economic development and prosperity. Outreach is also needed to convey true risk and build a sense of personal responsibility, fostering a "disaster resilient ethic."

Toward a Community Resilience Index – Exploring the Conceptual Framework
July 7, 2006 – Salon Summary

Sponsor: National Oceanic and Atmospheric Administration (NOAA)
    Coastal Services Center
Host: National Center for Atmospheric Research (NCAR)
    Boulder, Colorado
Objective: Establish a strategic framework for development of a nationally relevant
    coastal Community Resilience Index (CRI).

Attendees:
Katherine Andrews, Coastal States Organization
Ron Brunner, University of Colorado, Boulder
Larry Buss, U.S. Army Corps of Engineers
Ralph Cantral, NOAA Office of Ocean and Coastal Resource Management
Brooke Chakides, NOAA Coastal Services Center
Susan Cutter, University of South Carolina
Margaret Davidson, NOAA Coastal Services Center
Todd Davison, FEMA Region IV
Robert Day, Renewable Natural Resources Foundation
Robert Deyle, Florida State University
Kelly Dickson, NOAA Coastal Services Center
Sandy Eslinger, NOAA Coastal Services Center
John Gaynor, NOAA U.S. Weather Research Program
Duane Gill, Mississippi State University
Bruce Glavovic, New Zealand Planning Institute, Massey University
David Godschalk, Planning Dept., University of North Carolina, Chapel Hill
Eve Gruntfest, NCAR
Lynne Hale, The Nature Conservancy
William Hooke, American Meteorological Society
Matin Katirai, University of Louisville
Shirley Laska, University of New Orleans
Tony MacDonald, Urban Coast Institute
Kathy Marshall, National Resilience Resource Center
Sarah Newkirk, The Nature Conservancy
Walt Peacock, Texas A&M University
Kris Peterson, University of New Orleans
Roger Pulwarty, NOAA Cooperative Institute for Research in Environmental Sciences
Heidi Recksiek, NOAA Coastal Services Center
Tricia Ryan, NOAA Coastal Services Center
Philip Schneider, National Institute of Building Sciences
Jim Schwab, American Planning Association
Pat Skinner, Louisiana State University, AgCenter/Sea Grant/Extension
  Disaster Education Network
Kathleen Tierney, Natural Hazards Center
Chuck Wilson, Louisiana Sea Grant
Nate Wood, U.S. Geological Survey

Key Themes and Issues:

- Need to develop or adopt common definitions for things such as "community" and "resilience" before going too far with a conceptual framework.
- The idea of a single "index" to be applied at various scales and over such a wide range of disciplines is probably unrealistic. It might be more appropriate to focus on "leading index of indicators" or multiple indices to be developed incrementally.
- Scale is a major issue. The level at which indicators are valuable from a local perspective is going to be far different than a set of national or macro-scale indicators.
- Incentive is another major issue. An index alone can only measure something. If it isn't tied to some incentives, it is highly unlikely to be utilized.
- A key theme in many of the discussions was "local relevance."
- Significant input was obtained concerning potential factors of resilience in the breakout discussions. This input is captured in detail in Appendix B.
- Consensus was that the overall structure of a "capitals-based" approach needs work and there may be more appropriate "models" from which to build the conceptual framework.
- One major difficulty with the breakout discussions concerning different capitals was that overlapping areas need to be emphasized much more strongly. The interdependencies of the capitals were pointed out to be critical components of resilience.
- In a community systems approach, it is important not to overlook the role of the individual and how resilience is approached at that scale.

Appendices:

A. Agenda
B. Detailed Salon Notes

SUMMARY
Community Resilience Salon
Washington, D.C.
December 7, 2006

On December 7, 2006, the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center and the American Meteorological Society co-hosted a salon titled, "Community Resilience—Exploring the Conceptual Framework." Held in cooperation with the Business Civic Leadership Center and at the U.S. Chamber of Commerce in Washington, D.C., the purpose of the salon was to facilitate thoughtful discussion among experts from the private sector, federal agencies, and non-governmental organizations on factors that contribute to community resilience.

Attendees included individuals involved in a wide range of industries, from transportation, oil and gas, tourism, and finance, to consulting, technology development, and insurance. National and local chamber of commerce representatives, national nonprofits, and federal agencies also participated. (See Appendix A for a complete list of attendees.)

This salon was the second in a series. An initial salon held last July focused on hearing from researchers with expertise in identifying and measuring different aspects of resilience. A third salon will be co-hosted by NOAA and the Association of State Floodplain Managers this spring and will address the needs and issues of local elected officials and on-the-ground resource managers, floodplain managers, emergency managers, and planners.

Together the three salons will contribute to efforts by NOAA and partners to develop a framework that helps coastal communities assess and improve their resilience to hazards. The salons are also intended to begin building a community of practice across the public, private, academic, and nonprofit sectors devoted to understanding and enhancing community resilience.

Private-sector roles and connections across sectors and levels

During the morning, attendees explored roles of the private sector in community resilience and discussed connections among different elements and entities that contribute to the ability of communities to "bounce back" following disasters.

Asked to begin by highlighting success stories related to resilience, many participants talked about ways their organizations have participated in Gulf Coast recovery. These efforts include Fannie Mae's 18-month foreclosure moratorium; The Nature Conservancy's maps for Mississippi officials showing both conservation data and high-risk flood areas; and American Express' extensive marketing effort for the city of New Orleans. Attendees from the insurance industry discussed efforts to educate policy holders about flooding risks, while others praised community success stories such as

Savannah's evacuation during Bertha, and Philadelphia's new efforts to develop disaster plans.

As the discussion moved to overall roles of private-sector entities, attendees made it clear that while some think only in terms of businesses providing donations and volunteers in the wake of a disaster, private entities have a much more involved and complex role in community resilience. As an integral part of each community, businesses are victims, first-responders, and drivers of long-term recovery. Impacts to workers and infrastructure inevitably impact businesses. In turn, employers returning after a disaster provide jobs that are essential for community viability.

Attendees highlighted private-sector activities throughout the life cycle of a disaster. These include educating employees, customers, and franchise operators about risk and mitigation practices; providing employee assistance programs; and helping maintain or rebuild infrastructure such as the power grid. The insurance industry plays a unique role since availability of insurance influences where development and redevelopment occur. Participants felt the private sector could do more to participate in the assessment of both community and company risk, and suggested that national or corporate-level standards or indicators could be useful in this effort.

Connections across sectors, industries, and levels of government naturally arose during the discussion of roles, as did connections among different factors that contribute to resilience. Attendees talked about business resilience depending on workforce availability, which is tied to schools, housing, and medical services. Similarly, community plans for evacuations and post-disaster measures such as curfews have big impacts on businesses. Links such as these demonstrate the mutual interdependencies between the public and private sectors.

Attendees also discussed the critical role of nonprofit and faith-based organizations in helping communities prepare for and recover from disasters, and pointed out the challenge of trying to connect top-down, highly regulated government aid with on-the-ground organizations that understand local needs but may have limited capacity for administering grants or loans. Participants highlighted the ability of business and community organizations to move quickly to provide community assistance but said this ability is too often compromised by "red tape." It was acknowledged that speed is not always an asset, since there may be an inclination at the community level to rebuild immediately in areas or in ways that are not sustainable.

Local government and community leaders were identified as key players, because local planning and zoning decisions have such large ramifications for the placement, level, and nature of development and redevelopment. Attendees also discussed how government has impacted insurance, from state insurance departments challenging industry rules to public-funded insurance programs that interfere with market forces. Finally, attendees discussed how Hurricanes Katrina and Rita served to highlight the connection between natural systems and risk and hazard mitigation.

Drivers and incentives for change

In the afternoon, attendees discussed what motivates businesses, agencies, and communities to assess risk and increase resilience. Several themes emerged.

Learning from experiences: Attendees noted that Katrina and Rita brought a new recognition of risk, the costs of failing to prepare, and the need for collaboration and creative thinking. In the wake of these storms, building codes are changing in parts of the Gulf Coast region, planning and design are being incorporated in recovery plans, and many businesses have recognized the inadequacy of their disaster plans.

Economics, insurance, and size: On one side, economic risk is a big motivator for businesses, and in turn businesses' risk-based decisions about where to locate and/or relocate post-disaster motivate local governments. Insurance is a key component of the economic risk equation, with availability and cost influencing both individuals and business behaviors. On the other side, economic benefits or incentives can motivate individuals, businesses, and communities to prepare and take mitigation measures. Attendees talked specifically about the need to highlight the economic benefits of mitigation—both in terms of individual and community losses prevented and in terms of business continuity.

Attendees noted that the size of an individual business (local, regional, national, or international) impacts its motivations for dealing with risk. Large, geographically dispersed organizations are less impacted by a single disaster event than small, local businesses. As a result, large businesses may be less motivated to change their operational procedures in high-risk areas, choosing instead to close an office, relocate to a less risky place, or, in the case of insurance, withdraw from the market. Small businesses, on the other hand, are heavily impacted, and most very small businesses simply cannot bounce back after a disaster. Regional businesses wanting to remain in high-risk areas could be important players, since these entities have resources to recover and are interested in increasing resilience.

Post-disaster aid: Linking aid to local capacity building can spur local self-reliance. Requiring local plans and/or policy development can help communities become more resilient in preparation for future events.

Perception/understanding of risk and responsibility: People's perception of risk impacts their personal preparedness as well as their willingness to pay for the costs of mitigation. Attendees suggested that if people understood risk better, this would help them understand business decisions made by the insurance industry and could even lead people to support business passing on mitigation costs to consumers. The idea that people may have come to think they have a right to live without risk and the need to change this attitude was also discussed. Formal and informal educational efforts, as well as the media, were identified as having critical roles to play in this area.

Personal and community values: While less tangible than some of the economic variables, sense of place, sense of community, and values all play a role in resilience. Both personal and corporate values influence private-sector actions, and attachment to place is proving to be a powerful force in Gulf Coast communities making long-term

recovery plans. On a related note, attendees pointed out that public perceptions and values motivate private-sector actions from a public relations standpoint.

Leadership: The importance of leadership came up repeatedly. A "local champion" often drives change at the community level. Similarly, an individual can lead change in a business, or one company can spark change in an industry. Attendees also highlighted the potential for leadership by professional and industry organizations.

Summary findings/recommendations

During the course of the day, as attendees identified the roles of different sectors, and interconnections among them, as well as factors that can foster community resilience, several overarching recommendations emerged.

Plan, plan, plan: With so many players involved, and so many connections across factors that contribute to resilience, *proactive* planning about what to do before, during, and after a disaster is essential. Attendees said governmental entities should meet with nonprofits and businesses *before* disasters happen, discuss areas where nongovernmental players can be most nimble at providing assistance, and identify and address access and security issues that arise during relief and recovery efforts.

Similarly, the multiple providers of aid after a disaster need to plan how national-level funding sources can flow through community organizations that understand local needs. In the wake of Katrina and Rita, the need to incorporate post-disaster recovery planning —in everything from comprehensive land use plans to local mitigation plans to business continuity plans—is all too apparent. Attendees emphasized that effective planning cannot happen without strong local leadership and meaningful public involvement, and that performance measures will be essential to evaluating progress and updating plans over time. Finally, it was noted that, in addition to long-term resilience gains, the networking associated with cooperative planning can reap immediate economic benefits.

Increase and formalize coordination across sectors and levels: The current lack of formal relationships, communication, and cooperative planning across the many players involved in resilience is a key constraint. Attendees emphasized that state, local, and federal government, business entities, nonprofits and foundations, and community and faith-based organizations all have roles to play. Thinking about coordination needs from the community level to the national level, a kind of "network of networks" was proposed, with initial pilots perhaps being developed in areas impacted by recent hurricanes.

Attendees also suggested identifying and repeating good models of public-private partnership and indicated that businesses are already doing more communicating across sectors and levels of government post-Katrina. For example, the Business Center for Civic Leadership indicated that private enterprise had donated in excess of one billion dollars to Katrina relief, but in the process decided that in future years, business wants to contribute to pre-event mitigation and disaster prevention, not just response and recovery. Accordingly, they are developing plans to set aside resources to help businesses and communities mitigate against future loss.

Participants emphasized the importance of developing relationships in a pre-disaster environment to facilitate coordination post-event. The group discussed the potential to institutionalize public-private collaboration and mentioned national Emergency Support Functions as one mechanism for formalizing collaboration.

Urge associations, businesses, and individuals to take responsibility and play a role in fostering community resilience: In addition to taking direct action to enhance their own and their host communities' resilience, businesses can also foster action on the part of employees, suppliers, and customers. Similarly, professional and industry associations can engage their memberships to incorporate information and promote best practices. Big businesses can mentor smaller ones, and corporate internal competitions, training, and certifications can all spur innovations and improvements. At the same time, individuals and small businesses and franchise operators have a responsibility to understand their risks and prepare themselves.

Recognize that government will continue to play a critical role, using aid, incentives, and policies to balance societal concerns and values: During the salon, attendees discussed equity and diversity concerns, as well as the special needs of socially vulnerable populations. Government plays a key role in these areas, from providing direct aid to vulnerable groups, to providing incentives for including low-income housing in redevelopment efforts, to passing policies requiring mitigation in exchange for rebuilding assistance.

On the topic of Gulf Coast redevelopment, there is a delicate balancing act to be performed—while it is not desirable for government to subsidize redevelopment in high-risk areas, it is equally undesirable to allow coastal communities to lose their cultural traditions and socioeconomic and ethnic diversity. As that balance is pursued, one thing government can do is to tie aid to local capacity building, which will help communities to be more resilient when the next stressor arrives.

Use indicators and benchmarks and case studies to drive change: Throughout the day, indicators and performance measures or benchmarks were identified as useful tools for promoting and tracking progress. Identifying case studies and gleaning lessons learned was also suggested at multiple points during the discussion. Attendees suggested compiling good examples of private-public partnerships and leadership, as well as benefits gained from mitigation actions. Several existing studies or reports were mentioned that address best practices and/or benefits realized.

Develop and spread key messages: Over the course of the salon, attendees identified two areas where messaging could spur positive changes.

First, there is a need to communicate that enhancing resilience is a way to protect and foster future economic development and prosperity. Communities, individuals, and businesses all need to understand how current investments in mitigation pay off long-term, and messages are needed to articulate how resilience is essential both for business continuity and community development.

Second, there is a need to convey true risk and build a sense of personal responsibility. Current misperceptions about risk and the ability of government to provide unlimited aid are driving people's choices about where to live and invest, not to mention potentially life-threatening decisions about evacuation and mitigation measures. New messages are needed to foster a "disaster-resilient ethic."

Next Steps

As the salon drew to a close, participants committed to taking the day's ideas back to their organizations and began identifying specific actions they could explore as next steps. Co-hosts AMS and NOAA urged attendees to report back on follow-up actions and to continue to engage via the community of practice that is forming. As the dialogue on community resilience continues, the ideas generated at this salon will guide future efforts to understand, assess, and enhance resilience, as well as to build partnerships that capitalize on the strengths of each sector.

Appendix A – Salon Attendees

Jason Albritton, The Nature Conservancy
Steve Ambrose, NASA Homeland Security
Dave Applegate, United States Geological Survey
Bruce Baird, Association of Floodplain Managers, Inc.
Don Blick, Raytheon
Harvey Dahljelm, ITT Industries
Margaret Davidson, NOAA Coastal Services Center
Ollie Davidson, U.S. Chamber of Commerce, Business Civic Leadership Center
Todd Davison, NOAA Coastal Services Center
Patrick Dexter, Exxon Mobil Corporation
Susan Durden, U.S. Army Corps of Engineers, Institute of Water Resources
Jim Elder, Campaign for Environmental Literacy
Sandy Eslinger, NOAA Coastal Services Center
Michael Gallis, Michael Gallis & Associates
George Haddow, George Washington University, Institute for Crisis, Disaster,
     and Emergency Management
Win Hallet, Mobile Area Chamber of Commerce
Barbara Heizer, The Boeing Company
Bill Hooke, American Meteorological Society
Stephen Jordan, U.S. Chamber of Commerce, Business Civic Leadership Center
Tom Kuba, Lockheed Martin
Mike Lee, U.S. Army Corps of Engineers, Institute of Water Resources
Jane Long, Heritage Preservation
Neal Menefee, Rockingham Insurance Group
Frank Nutter, Reinsurance Association of America
Dean Pappas, Allstate
Heidi Recksiek, NOAA Coastal Services Center
Russell Riggs, National Association of Realtors

Tricia Ryan, NOAA Coastal Services Center
Harvey Ryland, Institute for Business & Home Safety
Drew Sachs, James Lee Witt Associates
Gavin Smith, Governor's Office, State of Mississippi
Patty Templeton-Jones, Fidelity National Property & Casualty Insurance Group
Wendy Thomas, American Meteorological Society
Debbie Tretler, Fannie Mae
Mickie Valente, Enterprise Florida
Maria Vorel, Federal Emergency Management Agency, Mitigation
Jan Wilkerson, American Meteorological Society
Chris Wright, American Express
Mary Lou Zoback, Risk Management Solutions

Summary
Community Resilience Salon
Warwick, Rhode Island
May 15, 2007

On May 15, 2007, the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center and the Association of State Floodplain Managers (ASFPM) co-hosted a salon titled, "Community Resilience—Exploring the Conceptual Framework." The purpose of the salon was to solicit expert advice on how to design, implement, and foster community resilience initiatives at the local level. Discussion sessions were organized to explore how on-the-ground coastal managers, emergency managers, floodplain managers, and planners might both contribute to and benefit from a framework that identifies indicators of resilience.

Attendees included individuals from a variety of resource management agencies, as well as emergency managers and floodplain managers. Representatives from nonprofit organizations and citizen organizations also participated. (See Appendix A for a complete list of attendees.)

This salon was the third in a series. An initial salon held in July 2006 focused on hearing from researchers with expertise in identifying and measuring different aspects of resilience. A second salon held in December 2006 brought together individuals from a wide range of industries, along with representatives of federal agencies and national nongovernmental organizations, to discuss factors that contribute to resilience. This final salon was designed to explore how to move from theory to practice, identifying ways in which communities can begin to measure and enhance resilience.

Together the three salons will contribute to efforts by NOAA and partners to develop a framework that helps coastal communities assess and improve their resilience to hazards. The salons are also intended to begin building a community of practice across the public, private, academic, and nonprofit sectors devoted to understanding and enhancing community resilience.

Designing, implementing, and fostering community resilience initiatives
During the morning, attendees discussed how to develop community resilience initiatives at the local level. Breakout groups discussed appropriate goals and partners, incentives to encourage participation, constraints these initiatives might face, and potential funding sources. The following sections provide a sampling of the ideas covered:

Goals: Attendees said community efforts should assess current risk and resilience, identifying a baseline and educating both local decision makers and the public about true risk. Discussion groups also talked about focusing on prevention and mitigation, and some mentioned that public participation needs to be significant. Several individuals said resilience efforts should be about more than bouncing back to current conditions after a stressor; local initiatives should include a dialog about, as well as planning for, community improvements. Other identified goals included raising the capacity for

community resilience via training and technical assistance and coordinating across entities and networks that support resilience.

Partners and target audience: Attendees discussed a wide variety of target audiences, agreeing that ultimately all aspects of the population should be informed about resilience. A host of strategic partners were identified, including building inspectors, developers, realtors, insurance agents, chambers of commerce, departments of public works, and homeowner associations. Attendees pointed out that groups such as building officials might start out as a target audience for outreach and education, but they could evolve into partners as a local resilience initiative developed. Participants also suggested tapping into existing networks, such as the American Planning Association or existing education and outreach efforts that range from K-12 to Sea Grant extension programs to the media. Both federal and state agencies were identified as sources of information and technical assistance. The judiciary was highlighted as a target audience that needs to be informed about climate change and coastal community resilience issues. Finally, attendees stressed the importance of engaging trusted members of the community who can serve as "champions."

Incentives: Participants said understanding the risk to lives and property is a key motivation for people, and they suggested articulating the long-term cost savings from mitigation measures. However, the group agreed that additional incentives are needed. Possibilities suggested include insurance incentives, property tax reductions, and clustering development via mechanisms such as transfers of development rights (i.e., allowing higher density in low-risk areas in exchange for keeping development out of high-risk areas.) Attendees also discussed regulatory measures such as improved building codes and revised National Flood Insurance Program (NFIP) regulations.

Constraints: The issue of risk awareness arose again in the dialog about constraints, with attendees identifying this as a key gap. Outdated flood maps were named as one specific problem hindering risk awareness. Participants also talked about reduced individual-level involvement with, and participation in, community issues, and several said there is inadequate understanding of what motivates behavior change. On the topic of land use and development, attendees noted enforcement of existing mitigation measures is an issue and cited development variances and overburdened enforcement staff as particular problems. The private property rights orientation of the legal system was also identified as a constraint. Finally, participants talked about a lack of political will among leaders, and they identified turnover, a focus on financial interests, and complacency as specific constraints.

Funding: Attendees identified a number of potential sources for funding resilience initiatives. These included impact or development fees, real estate transfer taxes, an oil spill fund, transportation and housing funds (e.g., Community Development Block Grants), hazard mitigation grants from the Federal Emergency Management Agency, and foundation grants. The Coastal Estuarine Conservation Land Program was identified as a mechanism for conserving coastal areas that provide mitigation values.

Discussing what constitutes a community and how to assess resilience
In the afternoon, attendees again worked in breakout groups, discussing what constitutes a community and what might be an appropriate geographic scale for

resilience initiatives. Groups also identified key sectors or institutions to engage and talked about how resilience might be assessed and measured over time.

Defining community, geographic scale for initiatives and key sectors
All of the groups agreed that the definition of community is situation-dependent, and that resilience initiatives might be undertaken at a variety of scales. A number of individuals suggested working at a scale that is as small as possible (e.g., neighborhood) but nesting these efforts within activities taking place at larger scales. Attendees also recommended developing pilots at several scales, pointing out that addressing resilience will require working at multiple scales, because different governmental levels have decision-making authority over different resilience-related issues.

When the breakout groups discussed key sectors and institutions to engage, there was significant overlap with the morning's discussion of partners. However, a number of specific new entities were named, including hospitals, small businesses, schools, grocery stores, and fire and police departments. Engagement of homeowners was again identified as critical.

Assessing resilience
In the morning, attendees had identified assessing current risk and resilience as one goal of local initiatives. In the afternoon, groups expanded on this topic, discussing what should be measured to establish a baseline and to track progress over time. Attendees agreed initiatives should have measurable goals and identified a variety of specific factors that could serve as indicators of resilience. Issues suggested for baseline assessment included infrastructure location and risk, housing stock and flood insurance participation rates, population demographics, economic diversity, and vulnerability of natural habitats. Attendees recommended that, as initiatives progress, tracking is done to monitor both "public resilience" and "business resilience." Some specific resilience indicators were suggested, such as the amount of fill going into new development in floodplains and the level of volunteerism in a community. The existing NFIP Community Rating System was also identified as a useful framework that might be built upon.

Interestingly, while factors related to the built environment and economy were named, a significant portion of the discussion focused on the need to measure and track social and governmental factors. Attendees talked about the need to assess the strength of social networks, identify particularly vulnerable segments of the population, and gauge the engagement of local elected officials. Participants indicated that a resilience initiative would need to include policy analysis and social science.

During the assessment discussion, a number of individuals emphasized that measuring resilience is not sufficient: collected information needs to be shared effectively with target audiences and partners. Putting data into a geographic information system (GIS) was recommended. This would facilitate tracking change over time, as well as allowing the creation of visuals to use in outreach, education, and fundraising efforts.

Success stories and next steps
During a final session, participants shared information about some positive developments that are already occurring in New England. For example, in Rhode Island an effort is underway to measure the resilience of docks and marinas, and the state's

coastal program has identified coastal barrier areas where development should not occur. Attendees also discussed recent court decisions that support hazard mitigation actions by the public sector and training opportunities for insurance agents.

As the salon drew to a close, participants committed to taking the day's ideas back to their organizations. Co-hosts ASFPM and NOAA urged attendees to report back on follow-up actions and to continue to engage via the community of practice that is forming. Pam Pogue, current chair of ASFPM, urged attendees to connect with the recently formed Rhode Island Flood Mitigation Association. As the dialogue on community resilience continues, the ideas generated at this salon will guide future efforts to understand, assess, and enhance resilience and will help to build partnerships across sectors and levels of government.

Appendix A
Salon Participants

Bob Bacon, South Carolina Sea Grant
Bruce Baird, Association of State Floodplain Managers
Wayne Barnes, City of East Providence
James Boyd, RI Coastal Resources Management Council
Alan Bradbury, Bay Springs Homeowners Association
Lynne Carter, Adaptation Network
Dennis Charland, Independent Insurance Agents of RI
Nell Codner, NOAA Coastal Services Center
Sandy Eslinger, NOAA Coastal Services Center
Wayne Feiden, City of Northampton, MA
Nicole Fleck-Tooze, City of Lincoln, NE
Janet Freedman, RI Coastal Resources Management Council
Grover Fugate, RI Coastal Resources Management Council
Brian Graber, American Rivers
Rebecca Haney, MA Office of Coastal Zone Management
Chris Hatfield, U.S. Army Corps of Engineers
Nancy Hess, RI Statewide Planning Program
Pam Kylstra, NOAA Coastal Services Center
Carissa Lord, RI Emergency Management Agency
Jennifer McCann, RI Sea Grant
Diana McClure, Institute for Business and Home Safety
Jim O'Connell, Woods Hole Sea Grant
Paula Pallozzi, RI Insurance Division
Pam Pogue, Association of State Floodplain Managers
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Wendy Marie Thomas, American Meteorological Society
Sandra Wyatt, Bay Springs Homeowners Association
Richard Zingarelli, MA Dept. of Conservation and Recreation